

River Study Committee Meeting

April 22, 2021

Presented by Jake San Antonio



Pickpocket Dam Project Background

- Town has a current Letter of Deficiency from NHDES (DSP#19-016)
- Pickpocket Dam is considered a High Hazard Dam
- Dam required to have sufficient discharge capacity pass the runoff generated by a 2.5 x 100 year storm event (Design Storm), with a minimum of one foot of remaining freeboard and without manual operations
- VHB performed a hydrological study to determine the Design Storm discharge
 - Design Storm – 10,200 CFS
- VHB has completed preliminary evaluations of several potential design modifications

Dam Alternatives

Existing Conditions

Cross Road

Alt 1: Increase abutment height to pass the design storm

Alt 1a: Remove sediment island + above alterations

Alt 2: Add a second abutment to pass the design storm.

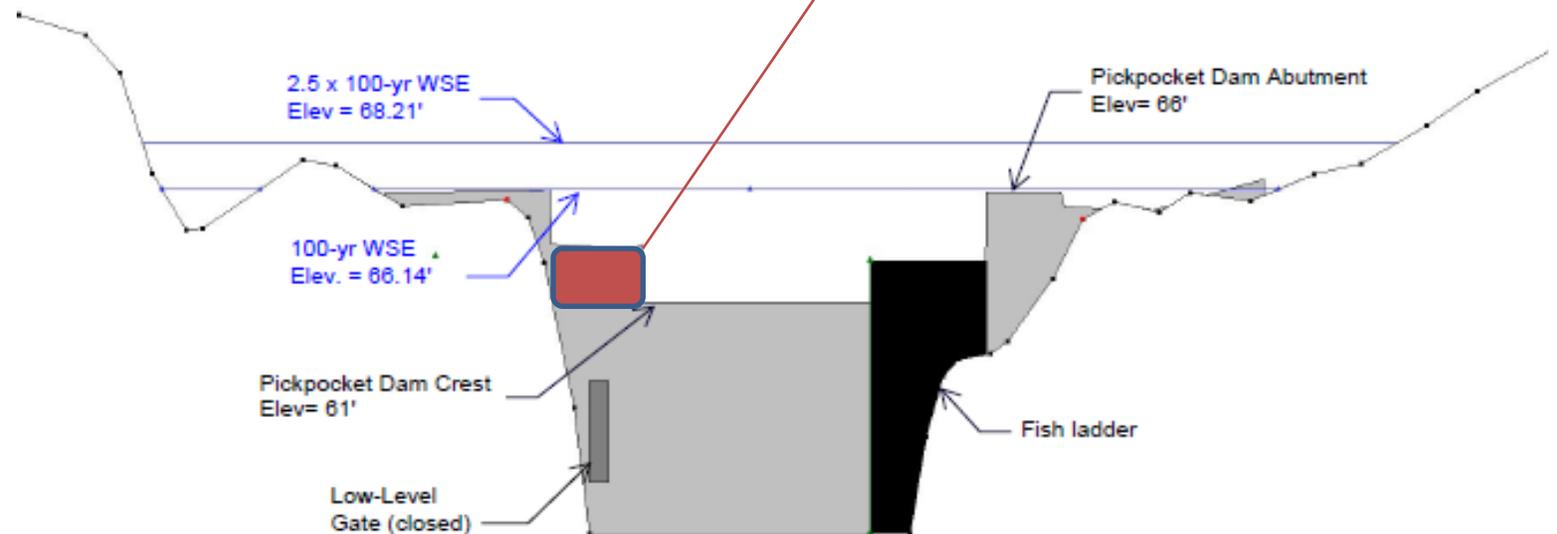
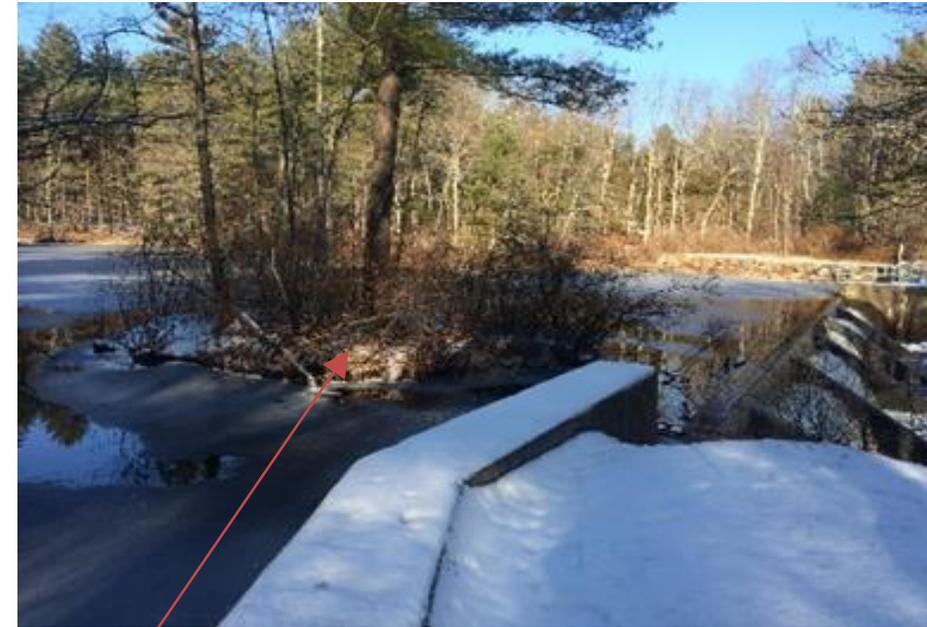
Alt 2a: Remove sediment island + above alterations

Alt 3: Remove the dam & fish weir

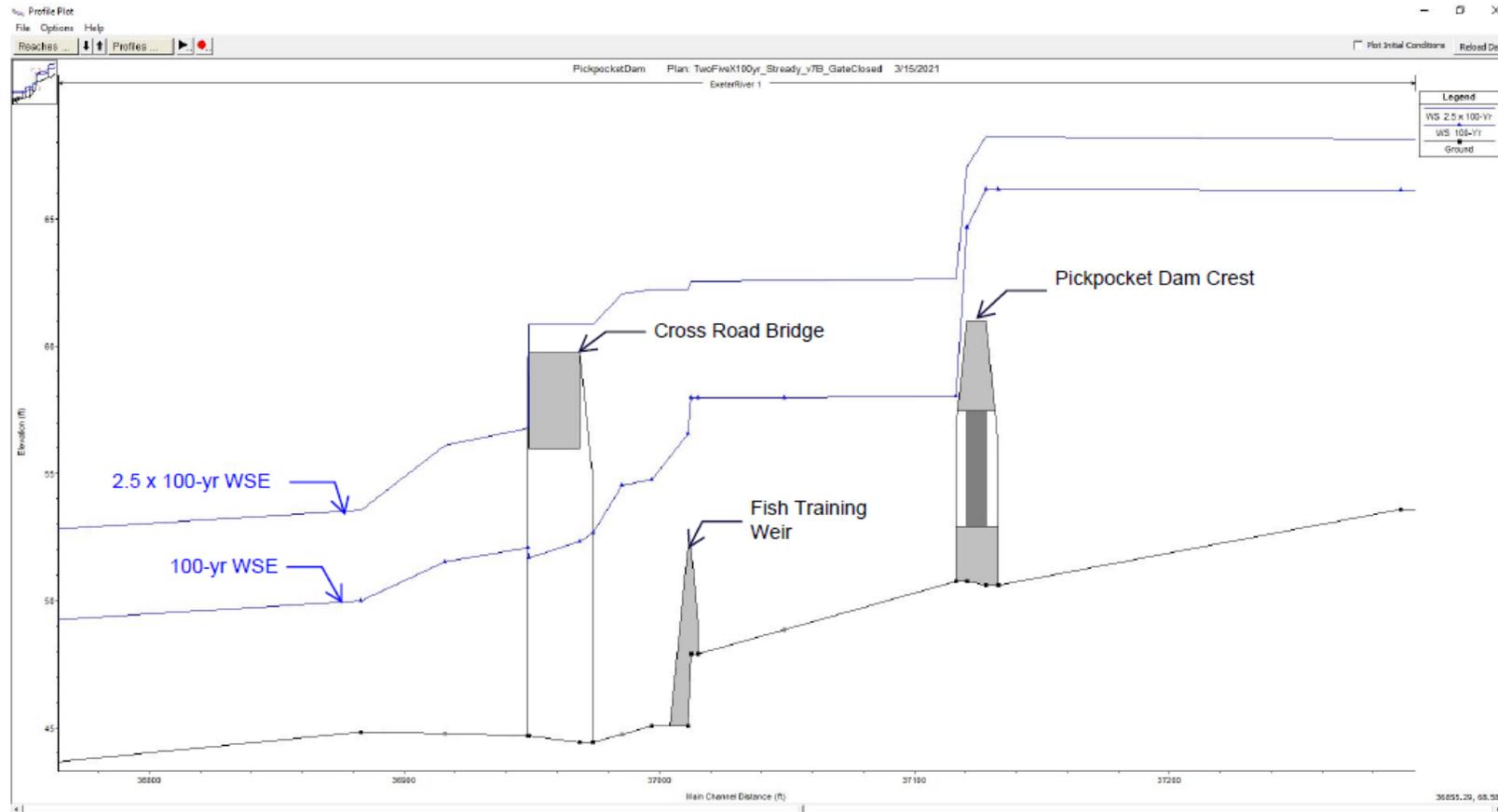


Existing Conditions

- Existing Abutment Elevation: 66.00
- Current dam consists of a crest, abutment, fish weir and ladder
- Portion of existing crest is obstructed by a sediment island



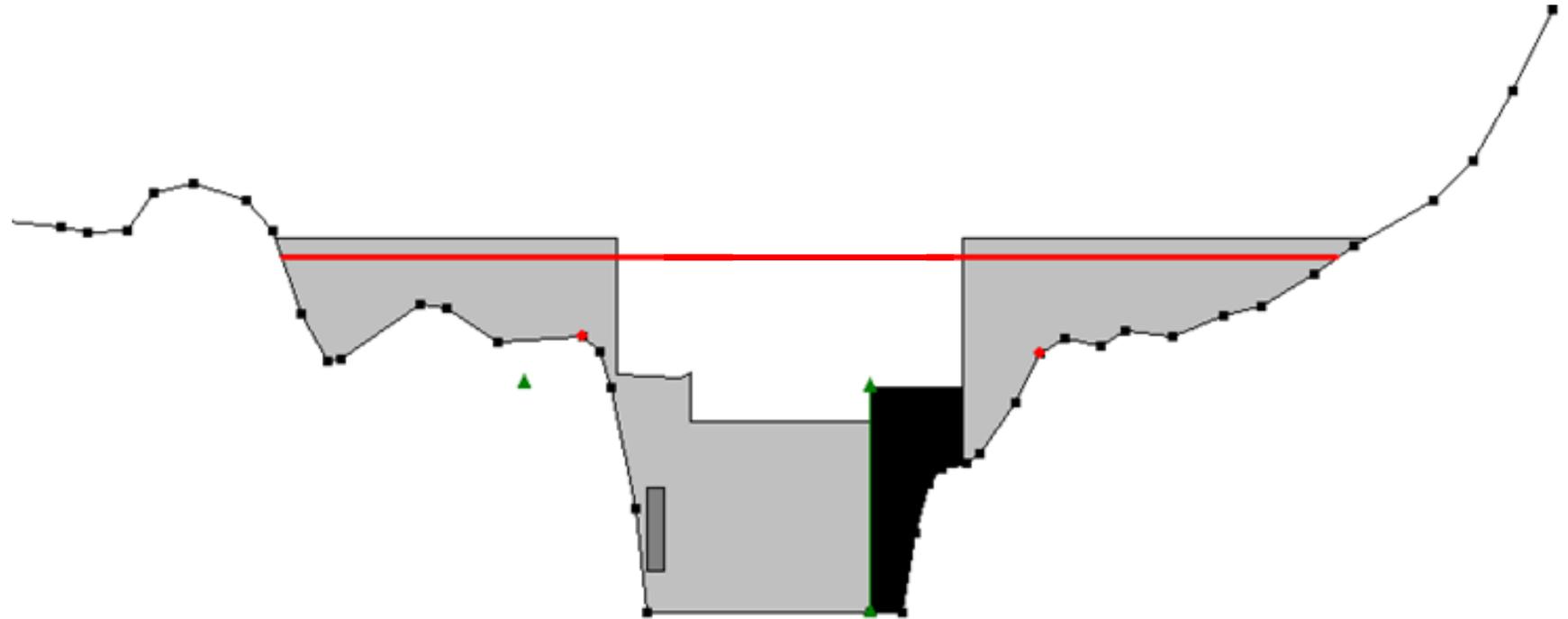
Existing Conditions; Cross Road Impacts



The Cross Road bridge found to have negligible impacts on water elevations at the dam's crest

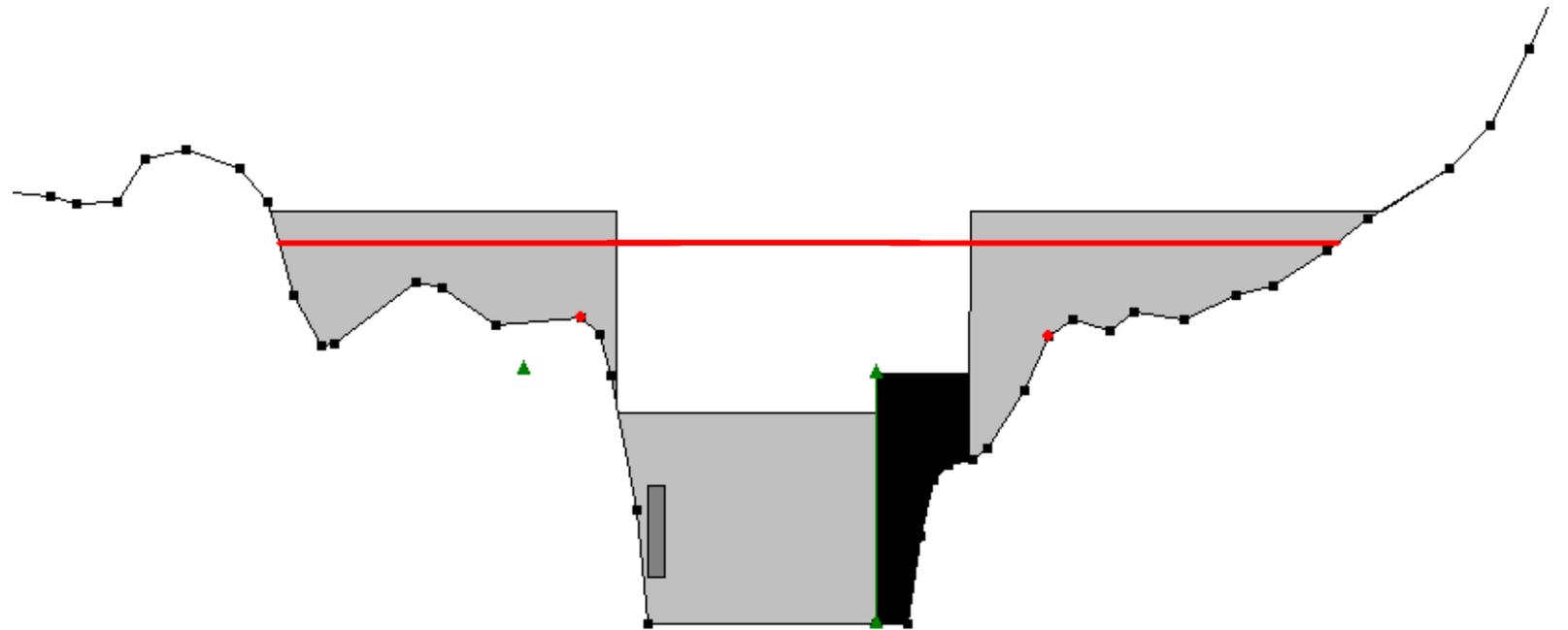
Alt 1: Increase Abutment Height

- Minimum Abutment Elevation: 70.96' (**+4.96**)
- Creates an increase in the 100-yr flood elevation (+0.17)
- No change to crest elevation & sediment island



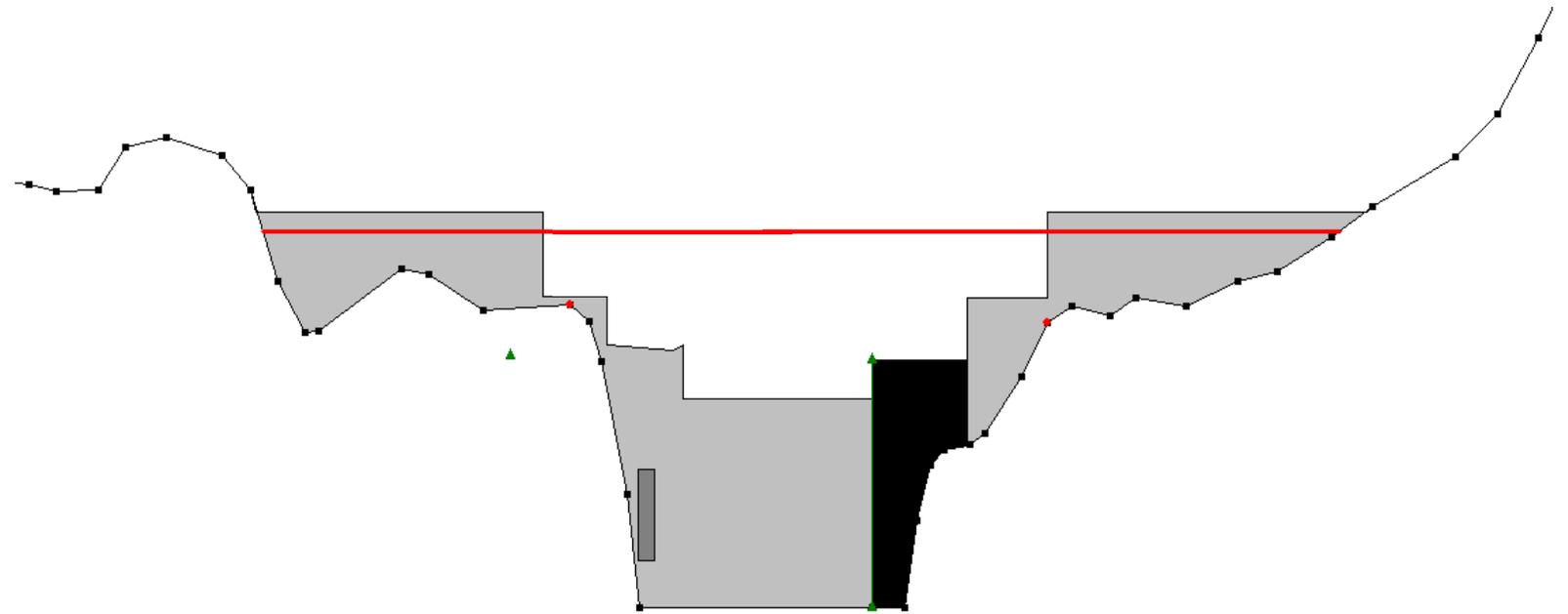
Alt 1A: Remove Sediment Island, Increase Abutment Height

- Minimum Abutment Elevation: 70.43' (+4.43)
- Creates a decrease in the 100-yr flood elevation (-0.33)
- No change to crest elevation



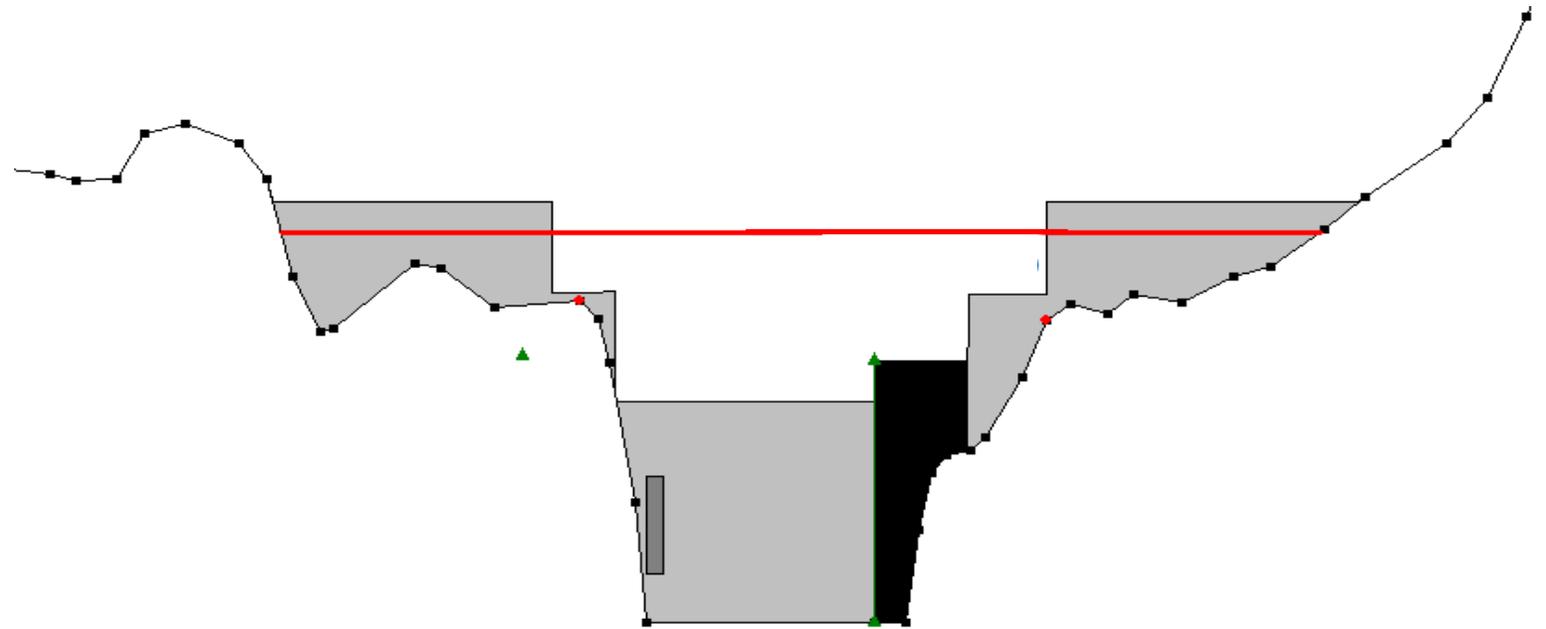
Alt 2: Add Second Abutment

- Minimum Second Abutment Elevation: 70.32' (**+4.32**)
- Creates an increase in the 100-yr flood elevation (+0.15)
- No change to sediment island, crest or existing abutment elevations



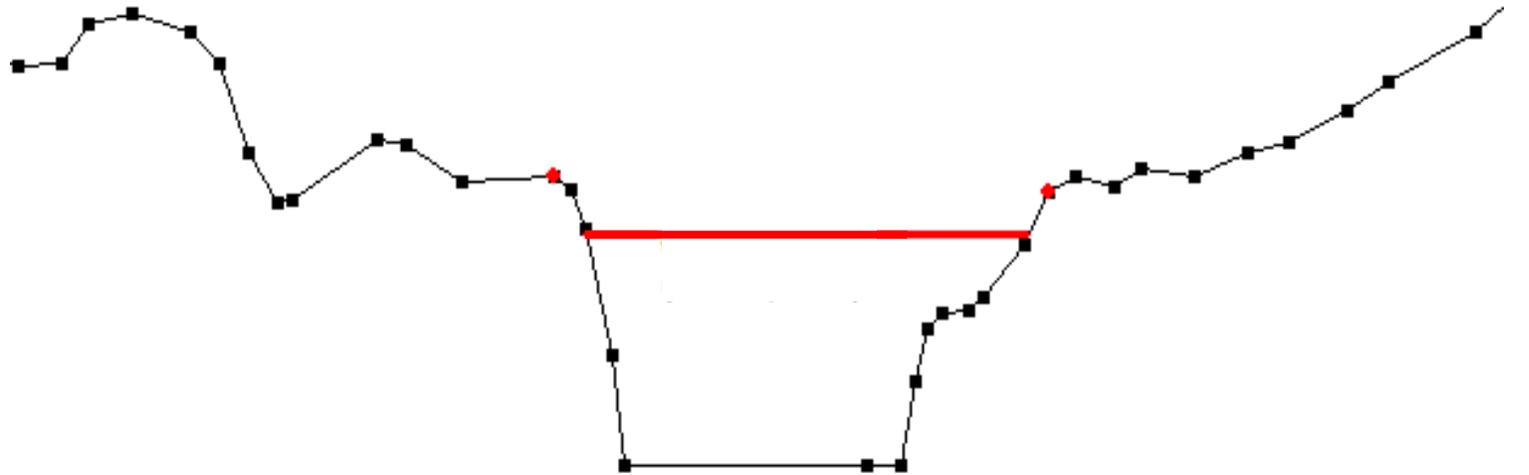
Alt 2A: Remove Sediment Island, Add Second Abutment

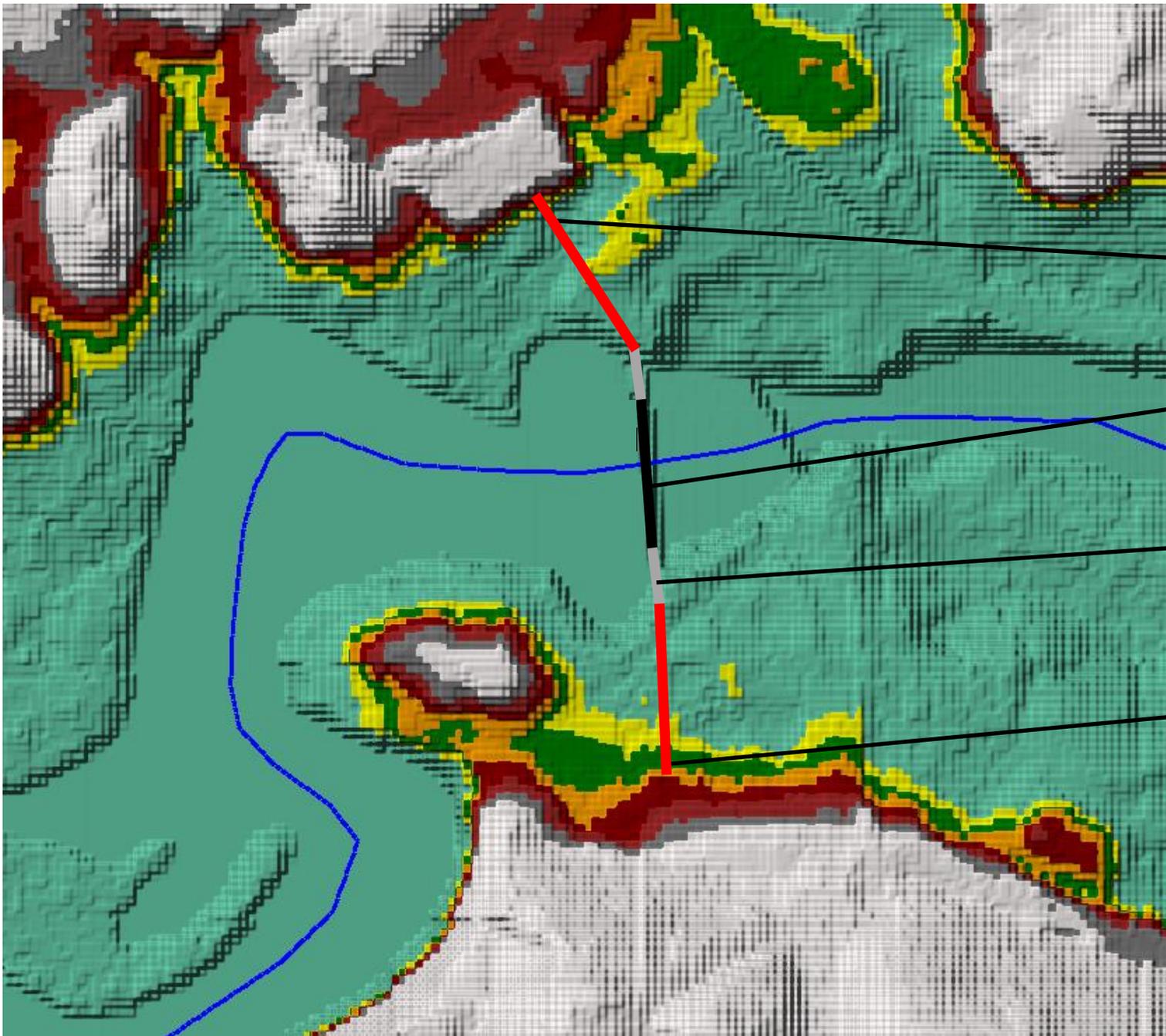
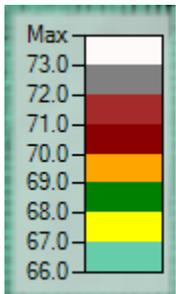
- Minimum Second Abutment Elevation: 69.21' (**+3.21**)
- Creates a decrease in the 100-yr flood elevation (-0.33)
- No change to crest or existing abutment elevations



Alt 3: Dam Removal

- Creates a decrease in the 100-yr flood elevation (-5.4)
- Removal of crest, abutments, fish weir, sediment island.





New tieback length
approximately 140' -150'

Dam Crest

Existing Abutments

New tieback length
approximately 150' -175'
Potential private property impacts

Questions?

